1   9.   (Amended)   The computer program product of claim 8, further

2 comprising:

3   **[computer program product means having computer readable]** means for

4   transforming said multivariate data to eliminate individual respondent

5   differences; and

6   **[computer program product means having computer readable]** means for

7   performing univariate analyses on each of said assessment variables

8   to validate cluster groupings.

REMARKS

The Examiner has rejected Claims 1-8 and indicated that Claim 9 is objected

to as dependent from a rejected claim.   The Examiner has further required the

submission of a new oath or declaration because that submitted with the

application is defective.   Further the Examiner has required new formal drawings

and objected to the drawings submitted additionally because reference numerals

appearing in the drawings are not mentioned in the specification.

Applicants herewith submit a declaration containing an original signature of

inventor David C. Dryer.   New informal (copies of formal) drawings are also

herewith transmitted.

The Examiner further objected to Claims 8 and 9 because of several

informalities and Applicants thank the Examiner for his suggestions on how to

correct the informalities appearing therein.   As the proposed amendments to the

nine claims remaining in the application indicate, Applicants have taken advantage

of the Examiner's suggestions and corrected Claims 8 and 9 as required.

Before addressing the § 101 and § 103 rejections, Applicants take this opportunity to restate the nature of their invention. The present invention provides a method for facilitating a user-machine, or user/system interface to a data processing system. The improvement in user system interface derives from the use of intelligent user agents. Applicants achieve their improvements in managing the user-system interface in a process with steps separated in time. That is, Applicants use statistical analysis techniques to associate particular intelligent agents with particular tasks to the end that when a user of the system elects to use a particular task, the previously associated intelligent user agent is provided to guide the user through the task the user wishes to perform.

§ 101 Rejection

The Examiner has rejected Claims 1-7 under 35 U.S.C. § 101 as being directed to non-statutory subject matter because no pre or post computer activity of the type that would put the claim into the harbor of statutory subject matter appears. The Examiner notes that as originally presented, the claims describe only activity taking place inside the computer. The Examiner cites *In re Gelnovatch and Arell* for the proposition that computations performed within a computer without limitation to a practical application, makes the claim non-statutory.

Applicants have amended independent Claims 1, 5 and 8 to now more particularly recite the benefit that comes to a user of a system embodying the present invention. That is, after the steps described for performing the various statistical analysis steps involved in associating an intelligent agent with a cluster

5

of tasks, Applicants now recite as a final step using the stored association to provide an appropriate intelligent agent to a user when that user executes a particular task. Because changes of the nature just described have been proposed for each of the independent claims, Applicants believe that they have overcome the § 101 rejection.

§ 103 Rejection

The Examiner has rejected Claims 1, 5 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Number 5,335,269 to Steinlicht (Steinlicht) and U.S. Patent Number 5,467,391 to Donaghue et al. (Donaghue). As noted above, Applicants invention relates to improving the user system interface. As stated in the specification, page 1, lines 6-8, Applicants present "a system and process for applying intelligent agent technology to human-computer interaction tasks in a computer system." Later on that same page, at line 12, Applicants point out "these agents attempt to enhance the human computer interface by intelligently interacting with the user in the performance of the specific task."

The references cited and applied by the Examiner relate to call routing to humans, for example, in a customer service operation. Agents in both references are people answering the phones. The inventions described in both references relate to directing calls in an efficient matter, taking into consideration the time of the caller and the expertise of the agents. Thus, Applicants traverse the Examiner's assertion with regard to Claim 1 that Steinlicht teaches assigning agents to tasks. As agent is used throughout Applicants' specification and claims,

6

it is clear that Applicants are referring to a computer implemented process assisting a human in user in the performance of a task, whereas the agent in Steinlicht are humans.

Applicants traverse further the Examiner's assertion that Applicants' user assessment variables find their equivalent in Steinlicht's consideration of agent language, credit card facility, etc. Nor does Steinlicht teach Applicants' step of storing and association linking each of said intelligent agents with one of said mutually exclusive clusters for the primary reason that intelligent agent, as that term is described, defined and used throughout the instant Application, is not a person, but rather a part of the computer system.

Applying Donaghue, the Examiner concludes it would be "obvious to a person of ordinary skill in the art at the time the invention was made to use the statistical analysis disclosed in Donaghue to assign agents to their tasks in Steinlicht". Applicants will concede for the sake of argument that it is quite possible that the teachings of the Steinlicht and Donaghue references could be combined since each relates to automatic call director systems and ways of minimizing the time a caller is put on hold while finding a person with the appropriate expertise to take the call for proper handling.

This is a totally different technology situation and problem from that addressed by Applicants. As reflected in the Specification, page 5, lines 3-9, the present invention is directed to providing a computer implemented process for determining the kind of intelligent agent, if any, to assign to human-computer

7

interface tasks. The process of the invention analyzes a set of user interface task characteristics and then clusters the tasks based on these characteristics before assigning a specific class of intelligent agent based on those characteristics common to the cluster, to the clusters. Intelligent agents in the present invention are not equivalent or interchangeable with human agents used and described in the Steinlicht and Donaghue patents. The optimization of agent utilization that the references seek is a human resources issue rather than a man machine interface issue that Applicants improve.

Similarly, the Examiner points to portions of Steinlicht as making portions of Applicants' Claim 5 obvious using the same assertion that Steinlicht includes equivalents to Applicants' user assessment variables. Again Applicants traverse that position. As with Claim 1, the Examiner notes that Steinlicht does not teach Applicants' means for performing multivariate statistical analysis. The Examiner then notes that as described in Claim 5, Applicants allow for the creation of more clusters than agents. The Examiner asserts that this is the same as determining the minimum number of agents required to perform a task in the situations of Steinlicht and Donaghue. Again Applicants reiterate that the purpose of their invention is facilitating the human computer interface through the appropriate use of intelligent user agents. Applicants first determine what intelligent user agents, i.e. wizards, guides, are best suited for making a user optimally efficient in executing a particular task. This is not the same situation as the references which

8

relate to having an appropriate number of humans available, within various constraints for taking phone calls.

The Examiner then states Donaghue teaches the use of compiled statistics as being of assistance in determining the number of agents required to service the calls and concludes it would be obvious to assign the use of statistical analysis in Donaghue to assign agents to tasks in Steinlicht. Applicants agree that may be true, but doing so does not teach or suggest Applicants' invention as described in their specification and claims and as restated in these remarks. The only thing immediately similar between the present invention and the references is the use of the word "agent" in a system that obviously includes conventional computer system components. Nothing that the Examiner has cited or described in any way suggests that call routing is related to facilitating the human computer interface and it appears that Applicants' teaching and choice of words have suggested the Examiner's application of the references.

With regard to Claim 8, the Examiner maintains that various portions of Steinlicht teach elements of Applicants' invention as claimed. Applicants disagree for the same reasons advanced above. Similarly, Applicants traverse the combination of Donaghue with Steinlicht for teaching any other elements in Claim 8.

Finally, the Examiner indicated that Claim 9 would be allowable if rewritten in independent form including all of the limitations of Claim 8. Applicants at this time reserve the opportunity to adopt that suggestion of the Examiner. Claim 8 is
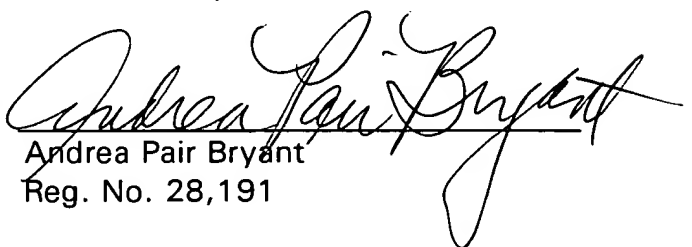
9

the only independent claim implicitly deemed to recite statutory subject matter. While Applicants have amended Claim 8 in accordance with the Examiner's suggestion to clarify that they are claiming a computer program product for use in a data processing system to a program product comprising means for receiving assessment data, performing multivariate analysis, storing linking associations and for causing an agent to execute when the user executes a task.

As proposed to be amended, Applicants' Claims 1-9 are believed to recite subject matter which is statutory and patentably distinguishable over the combination of the Steinlicht and Donaghue references. Applicants teach improving the user-system interface through proper choice of intelligent user agents such as wizards and guides. The applied references teach improvements in phone call handling.

In view of the amendments to the claims and Specification, compliance with the Examiner's requirements regarding the Declaration and drawings and the arguments made in these Remarks, Applicants respectfully urge the Examiner to withdraw these rejections under 35 U.S.C. §§ 101 and 103.

Respectfully submitted,

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